

1. A method for the production of an alpha-crystalline form of isoflavones comprising the steps of:
 - (a) extracting isoflavones from isoflavone-containing plant matter by contacting the isoflavone-containing plant matter with an aqueous organic solvent mixture to give an extract solution;
 - (b) filtering the extract solution to reduce the amount of plant matter having a molecular weight greater than that of the isoflavones;
 - (c) reducing the solvent in the filtered solution to effect alpha-crystallisation of the isoflavones; and
 - (d) recovering the alpha-crystalline isoflavones.
2. The method of claim 1 wherein the aqueous organic solvent mixture is in the range of 1:10 - 10:1 of water:organic solvent.
3. The method of claim 2, wherein the ratio is about 1:1 of water:organic solvent.
4. The method of claim 1, wherein the organic solvent is a C1-4 organic solvent selected from alcohols, chloroalkanes, glycols, alkyl esters and ethers.
5. The method of claim 4, wherein the organic solvent is ethanol.
6. The method of claim 1, wherein the alpha-crystalline isoflavones have an isoflavone content of greater than 50%.
7. The method of claim 1, wherein the filtration step at step (b) is an ultrafiltration step.

8. A method for the production of an alpha-crystalline form of isoflavones comprising the steps of:
- (a) extracting isoflavones from isoflavone-containing plant matter by contacting the isoflavone-containing plant matter with an aqueous organic solvent mixture to give an extract solution;
 - (b) filtering the extract solution to reduce the amount of plant matter having a molecular weight greater than that of the isoflavones;
 - (c) reducing the solvent in the filtered solution to effect alpha-crystallisation of the isoflavones;
 - (d) recovering the alpha-crystalline isoflavones;
 - (e) dissolving the recovered isoflavone crystals from step (d) in an organic solvent;
 - (f) gradually reducing the volume of the organic solvent to effect the selective alpha-crystallisation of isoflavones; and
 - (g) isolating the selective alpha-crystalline isoflavones.
9. The method of claim 8 wherein the aqueous organic solvent mixture is in the range of 1:10 - 10:1 of water:organic solvent.
10. The method of claim 9, wherein the ratio is about 1:1 of water:organic solvent.
11. The method of claim 8, wherein the organic solvent is a C1-4 organic solvent selected from alcohols, chloroalkanes, glycols, alkyl esters and ethers.
12. The method of claim 11, wherein the organic solvent is ethanol.

13. The method of claim 8, wherein the alpha-crystallised isoflavones have an isoflavone content of greater than 50%.
14. The method of claim 8, wherein the filtration step at step (b) is an ultrafiltration step.
15. The method of claim 8, wherein the organic solvent from step (e) is a C1-4 ester or ether.
16. The method of claim 15, wherein the organic solvent is ethyl acetate.
17. The method of claim 8, wherein the selective alpha-crystalline isoflavones have an isoflavone content of greater than 80%.
18. The method of claim 17, wherein the selective alpha-crystalline isoflavones have an isoflavone content of greater than 90%.
19. The method of claim 1 or 8, wherein the alpha-crystalline form of isoflavones contain predominantly formononetin and daidzein.
20. The method of claim 1 or 8, wherein the alpha-crystalline form of isoflavones contain predominantly biochanin and genistein.
21. Alpha-crystalline isoflavones prepared by a method of claim 1 or 8.
22. An alpha-crystalline form of isoflavones.
23. The alpha-crystalline isoflavones of claim 22, wherein the alpha-crystalline form is substantially colourless, odourless and virtually tasteless when formulated in food preparations and pharmaceutical products.
24. The alpha-crystalline isoflavones of claim 23, wherein the alpha-crystalline form contains isoflavones in excess of 50%.

25. The alpha-crystalline isoflavones of claim 24, wherein the alpha-crystalline form contains isoflavones in excess of 90%.
26. The alpha-crystalline isoflavones of claim 25, wherein the alpha-crystalline form is substantially pure.
27. A food product or pharmaceutical preparation containing one or more highly purified isoflavones.
28. The food product or pharmaceutical preparation of claim 27, wherein the highly purified isoflavones are in the alpha-crystalline form.
29. A method for the manufacture of a food product or pharmaceutical preparation including the step of bringing an alpha-crystalline form of isoflavones into admixture with one or more ingredients in said food product or pharmaceutical preparation, wherein the alpha-crystalline form is substantially colourless, odourless and virtually tasteless when formulated in said food product or pharmaceutical preparation.
30. The method of claim 29, wherein the alpha-crystalline isoflavones are comminuted or pulverised before being formulated into said food product or pharmaceutical preparation.
31. An alpha-crystalline form of isoflavones, wherein the crystalline form has an X-ray powder diffractogram with reflection signals (2 theta) of high and medium intensity at about the following:

7.0, 9.9, 15.8, 22.7, 23.0, 23.9, 26.3, and 26.9.
32. The method of claim 1, wherein the alpha-crystallised isoflavones have an isoflavone content greater than 65%.

33. The method of claim 8, wherein the alpha-crystallised isoflavones have an isoflavone content greater than 65%.